

**REMARKS**

Applicants amend claims 7 and 12. No new matter is added. Upon entry of this amendment, claims 1-9 and 12-13 are presented for examination, of which claims 1, 7, and 12 are independent. Applicants respectfully submit that claims 1-9 and 12-13 define over the art of record.

Applicants respectfully submit that present application claims priority to Japanese Application No. 2003-062047 filed on 03/07/03, Japanese Application No. 2003-061976 filed on 03/07/03 and Japanese Application No. 2003-062009 filed on 03/07/03. Applicants file herewith certified English translations of the foreign priority documents to perfect the filing date of the priority documents.

**Claim Rejections under 35 U.S.C. §112**

Claims 7-9 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Specifically, the Examiner alleges that the limitations “first reinforcing film that is in physical contact with the first electrically conductive gas diffusion layer” and “second reinforcing film that is in physical contact with the second electrically conductive gas diffusion layer” are not supported by the specification. Applicants respectfully disagree.

Applicant respectfully submits that these limitations have support at page 28, lines 13-16; page 29, lines 7-17, and Fig. 17. Specifically, Fig. 17 illustrates that the first reinforcing film 126a is in physical contact with the first electrically conductive gas diffusion layer 132 and the second reinforcing film 126b is in physical contact with the second electrically conductive gas diffusion layer 134.

The specification at page 29, lines 7-17 indicates that, regarding Fig. 17, the first electrically conductive diffusion layer 132 of the membrane electrode assembly has a first end 132a extending toward the adjacent membrane electrode assembly 124(2). The second electrically conductive diffusion layer 134 of the membrane electrode assembly 124(2) has a second 134a end extending toward the adjacent membrane electrode assembly 124(1).

The first and second ends 132a, 134a partially overlap such that the solid polymer electrolyte membrane 122 and *the silicon films* 126a, 126b *are interposed between overlapping portions of the first and second ends* 132a, 134a.

Accordingly, Applicant respectfully request that the Examiner reconsider and withdraw the rejection of claims 7-9 under 35 U.S.C. §112.

### Claim Rejections under 35 U.S.C. §103

#### I. Claims 1-6

Claims 1 and 2 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication No. 2004/0028975 to Badding et al. (hereafter “Badding”) in view of U.S. Patent No. 6,680,139 to Narayanan et al. (hereafter “Narayanan”).

Claims 3 and 4 are rejected under 35 U.S.C. §103(a) as being unpatentable over the Badding reference in view of Narayanan reference, and further in view of U.S. Patent No. 3,770,509 to Winsel et al. (hereafter “Winsel”).

Claim 5 is rejected under 35 U.S.C. §103(a) as being unpatentable over the Badding reference in view of Narayanan reference, and further in view of Japanese Patent Application Publication No. JP 2003-197225 to Maeda et al. (hereafter “Maeda”).

Claim 6 is rejected under 35 U.S.C. §103(a) as being unpatentable over the Badding reference in view of Narayanan reference, and further in view of U.S. Patent Application Publication No. 2002/0187382 to Nishiumi et al. (hereafter “Nishiumi”).

Applicants respectfully submit that any combination of the Badding reference, the Narayanan reference, the Winsel reference, the Maeda reference, the Nishiumi reference do not teach or suggest that the first electrically conductive film or the second electrically conductive film has *an expansion* between the adjacent power generation units for connecting the first electrically conductive film and the second electrically conductive film, as recited in claim 1.

### The Badding Reference

The Badding reference has a U.S. filing date of April 24, 2003, which is after the earliest priority date March 7, 2003 of the present application. Although the Badding reference claims priority to U.S. Patent No. 6,623,881, the figures that the Examiner is relying upon are not shown in the '881 patent. Applicants submit herewith a certified English translation of the priority documents to perfect the filing date of the priority documents. As such, the Badding reference is disqualified as a prior art reference, rendering the rejection of claims 1-6 moot. However, for purposes of clarity, Applicants submit an analysis of the cited references in combination with the Badding reference.

### The Narayanan Reference

The Examiner cites the Narayanan reference to show that membrane electrode assemblies 97 (the alleged power generation units) are placed on top of a wicking structure 120 (the alleged porous insulating film). The Narayanan reference does not teach or suggest that the first electrically conductive film or the second electrically conductive film has *an expansion* between the adjacent power generation units for connecting the first electrically conductive film and the second electrically conductive film, as recited in claim 1.

### The Winsel Reference

The Examiner cites the Winsel reference to show that the electrical conductive film can be made of composite materials including resin and an electrically conductive material, as recited in claims 3 and 4. However, like the Narayanan reference, the Winsel reference does not teach or suggest that the first electrically conductive film or the second electrically conductive film has *an expansion* between the adjacent power generation units for connecting the first electrically conductive film and the second electrically conductive film, as recited in claim 1.

### The Maeda Reference

The Maeda reference has a publication date of July 11, 2003, which is after the earliest priority date March 7, 2003 of the present application. Applicants submit herewith a certified English translation of the priority documents. As such, the Maeda reference is disqualified as a prior art reference.

### The Nishiumi Reference

The Examiner cites the Nishiumi reference regarding claim 6 to show that a reactant gas supply passage 228 and a reactant gas discharge passage 229 extend through an end of the fuel cell at Fig. 4 and Paragraph 48. The Nishiumi reference does not teach or suggest that the first electrically conductive film or the second electrically conductive film has *an expansion* between the adjacent power generation units for connecting the first electrically conductive film and the second electrically conductive film, as recited in claim 1.

Accordingly, Applicants respectfully submit that any combination of the Badding reference, the Narayanan reference, the Winsel reference, the Maeda reference, the Nishiumi reference do not teach or suggest that the first electrically conductive film or the second electrically conductive film has *an expansion* between the adjacent power generation units for connecting the first electrically conductive film and the second electrically conductive film, as recited in amended claim 1.

Applicants note that the dependent claims 2-6 also recite patentable subject matter. As such, for this and the reasons set forth above, dependent claims 2-6 also define over the art of record. Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 1-6 under 35 U.S.C. §103(a).

### II. Claim 7

Claim 7 is rejected under 35 U.S.C. §103(a) as being unpatentable over the Narayanan reference in view of United State Patent Application Publication No. 2003/0104262 to Kuroki et al. (hereafter “Kuroki”).

Claim 7 recites that the electrically conductive member extending through at least the electrolyte and the first and second reinforcing films. Applicants respectfully submit that the combination of the Narayanan reference and the Kuroki reference does not teach or suggest this limitation. Applicants further submit that there is no motivation to combine or modify the Narayanan reference with the Kuroki reference.

The Narayanan reference teaches membrane electrode assemblies 97, 98, 99 that are spread out and aligned in a horizontal plane and positioned on top of a wicking structure 120.

The Examiner notes that the Narayanan reference does not teach or suggest first and second reinforcing films, as required by claim 7. The Examiner looks to the Kuroki reference to cure the deficiency of the Narayanan reference.

#### The Kuroki Reference

The Kuroki reference teaches the stacking of unit cells to form a fuel battery in Fig. 15. The Examiner alleges that the seal gaskets 20 and 21 in Fig. 8 are the equivalent of first and second reinforcing films. However, there is no motivation to combine or modify the Narayanan reference with the Kuroki reference because one teaches spreading the cells in a horizontal plane and the other teaches the stacking of cells.

Applicants respectfully submit that even the Narayanan reference is combined with the Kuroki reference, there is no reasonable expectation of success to achieve the fuel cell structure of the present invention. Applicants further submit that the Kuroki reference does not teach or suggest an electrically conductive member extending through at least the electrolyte and the first and second reinforcing films, as recited in amended claim 7.

Accordingly, Applicants respectfully submit that the combination of the Narayanan reference and the Kuroki reference does not teach or suggest that the electrically conductive member extending through at least the electrolyte and the first and second reinforcing films, as recited in Applicants' claim 7. Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claim 7 under 35 U.S.C. §103(a).

#### III. Claim 8

Claim 8 is rejected under 35 U.S.C. §103(a) as being unpatentable over the Narayanan reference in view of the Kuroki reference, and further in view of the Badding reference.

Applicants submit herewith a certified English translation of the priority documents to disqualify the Badding reference as a prior art reference, rendering the rejection of claim 8 moot.

#### IV. Claim 9

Claim 9 is rejected under 35 U.S.C. §103(a) as being unpatentable over the Narayanan reference in view of the Kuroki reference, and further in view of U.S. Patent No. 5,942,348 to Jansing et al. (hereafter "Jansing").

#### The Jansing Reference

The Jansing reference is cited by the Examiner regarding claim 9 to show that a first electrically insulating bipolar plate 30 and a second electrically insulating bipolar plate 30' sandwich a membrane electrode assembly 43. The Jansing reference, like the Narayanan and Kuroki references, does not teach or suggest first and second reinforcing films, and hence does not teach or suggest an electrically conductive member extending through at least the electrolyte and the first and second reinforcing films, as recited in amended claim 7.

Applicants note that the dependent claim 9 also recites patentable subject matter. As such, for this and the reasons set forth above, dependent claim 9 also defines over the art of record. Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claim 1'9 under 35 U.S.C. §103(a).

#### V. Claims 12-13

Claim 12 is rejected under 35 U.S.C. §103(a) as being unpatentable over the Badding reference in view of the Jansing reference, the Nishiumi reference, and further in view of U.S. Patent No. 5,547,777 to Richards (hereafter "Richards").

Claim 13 is rejected under 35 U.S.C. §103(a) as being unpatentable over the Badding reference in view of the Jansing reference, the Nishiumi reference, the Richards reference, and further in view of Japanese Patent Application Publication No. 63-279578 to Ide et al. (hereafter "Ide").

Applicants submit herewith a certified English translation of the priority documents to disqualify the Badding reference as a prior art reference. As such, the rejection of claims 12-13 is rendered moot.

**CONCLUSION**

Please charge any shortage or credit any overpayment of fees to our Deposit Account No. 12-0080, under Order No. TOW-066RCE. In the event that a petition for an extension of time is required to be submitted herewith, and the requisite petition does not accompany this response, the undersigned hereby petitions under 37 C.F.R. § 1.136(a) for an extension of time for as many months as are required to render this submission timely. Any fee due is authorized to be charged to the aforementioned Deposit Account.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

By 

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